

## Recombinant Human CGAS Protein, His-tagged

Cat. No. CGAS-019H Lot. No. (See product label)

### SPECIFICATION

<b>Product Overview</b>	Recombinant full length human CGAS protein (2-522) with a N-terminal His tag was expressed in E. coli.
<b>Species</b>	Human
<b>Source</b>	E.coli
<b>ProteinLength</b>	2-522
<b>Description</b>	<p>Cyclic GMP-AMP (cGAMP) synthase (cGAS) is a nucleotidyltransferase located in the cytosol that acts as a cytosolic DNA sensor to detect foreign DNA from microbial pathogens as part of the innate immune response. Upon binding to cytosolic DNA, cGAS produces the cyclic dinucleotide second messenger cGAMP, which activates stimulator of interferon genes (STING), leading to activation of the type I interferon (IFN) pathway. In vitro, fibroblasts, macrophages, and dendritic cells isolated from cGAS knockout (cGAS <math>-/-</math>) mice do not produce type I IFNs following DNA transfection or DNA virus infection. Similarly, cells containing a frame-shift mutation in the cGAS locus fail to mount an immune response to HIV and other retroviruses. In vivo, cGAS <math>-/-</math> mice infected with herpes simplex virus 1 (HSV-1) have lower levels of IFN-<math>\alpha</math> and IFN-<math>\beta</math>, shorter survival times, and higher post-mortem levels of HSV-1 in the brain.</p>
<b>Form</b>	50 mM HEPES, pH 8.0, with 300 mM sodium chloride, and 10% glycerol
<b>Molecular Mass</b>	61 kDa

 Tel: 1-631-559-9269 1-516-512-3133

 Email: [info@creative-biomart.com](mailto:info@creative-biomart.com)  Fax: 1-631-938-8127

 45-1 Ramsey Road, Shirley, NY 11967, USA

<b>Purity</b>	≥90% estimated by SDS-PAGE
<b>Unit Definition</b>	One unit of cGAS produces 1 pmole of cGAMP per minute at 37 centigrade in 80 mM Tris-HCL, pH 7.5, containing 200 mM NaCl, 20 μM ZnCL2 , and 20 mM MgCl2 with 4 μg circular DNA (3623 bp) and 0.25 mM each of GTP and ATP.
<b>Stability</b>	≥ 1 year
<b>Storage</b>	Store at -80 centigrade
<b>Shipping</b>	Dry ice in continental US; may vary elsewhere

## GENE INFORMATION

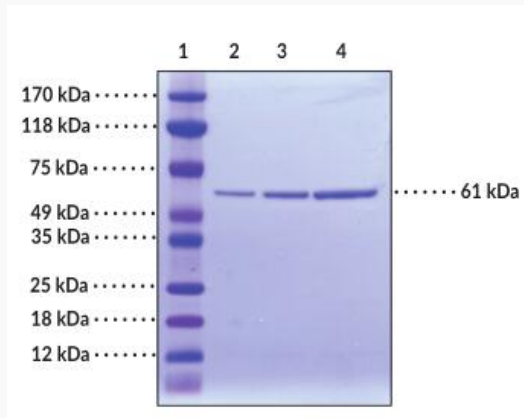
<b>Gene Name</b>	<a href="#">CGAS cyclic GMP-AMP synthase [ Homo sapiens (human) ]</a>
<b>Official Symbol</b>	<a href="#">CGAS</a>
<b>Synonyms</b>	CGAS; cyclic GMP-AMP synthase; MB21D1; h-cGAS; C6orf150; cyclic GMP-AMP synthase;2'3'-cGAMP synthase; Mab-21 domain containing 1; cGAMP synthase; mab-21 domain-containing protein 1; protein MB21D1; EC 2.7.7.86
<b>Gene ID</b>	<a href="#">115004</a>
<b>mRNA Refseq</b>	<a href="#">NM_138441</a>
<b>Protein Refseq</b>	<a href="#">NP_612450</a>
<b>MIM</b>	<a href="#">613973</a>
<b>UniProt ID</b>	<a href="#">Q8N884</a>

 Tel: 1-631-559-9269 1-516-512-3133

 Email: [info@creative-biomart.com](mailto:info@creative-biomart.com)  Fax: 1-631-938-8127

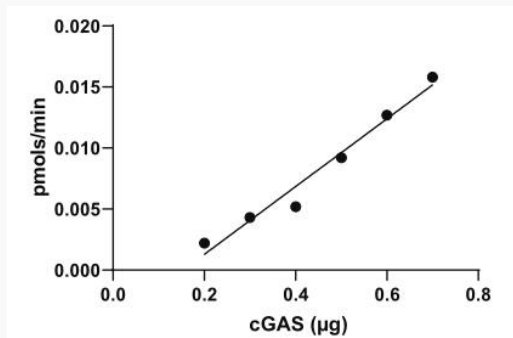
 45-1 Ramsey Road, Shirley, NY 11967, USA

**SDS-PAGE analysis  
of cGAS.**



Lane 1: MW Markers  
 Lane 2: cGAS (1 g)  
 Lane 3: cGAS (2 g)  
 Lane 4: cGAS (4 g)

**cGAS Activity**



GAS production of cGMP was detected using 2'3'-cGAMP ELISA Kit.

Tel: 1-631-559-9269 1-516-512-3133

Email: [info@creative-biomart.com](mailto:info@creative-biomart.com) Fax: 1-631-938-8127

45-1 Ramsey Road, Shirley, NY 11967, USA